

ABSTRACT OF THE DISCLOSURE

Devices useful in liquid transfer applications and in particular, devices for controlling the free surface of a source liquid in acoustic liquid ejection systems are disclosed. The devices advantageously maintain a source liquid to be transferred at a constant height and reduce disturbances formed in the liquid due to droplet ejection. In one variation, a well plate includes a plurality of wells each having a capillary. Source liquid in a well moves up the capillary due to capillary action and arrives at a certain height. The height arrived at remains constant despite the source liquid depleting from the well during the ejection process. The capillary can be separately joined or integral with the well plate. In another variation, an insert includes a capillary tube and at least one support attached thereto. In another variation, a device includes a plurality of capillary tubes joined together by a frame or other substrate. The device is positioned atop a well plate such that the capillary tubes align with and extend into the wells. In yet another variation, an insert includes a tubular member having a liquid restricting inlet. The restricting inlet is sufficiently small such that liquid forms a meniscus at the inlet. Methods for controlling the free surface of a source liquid in a source fluid container are also disclosed.

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